

4.4 Slope Intercept Form of the Equation for a Linear Function

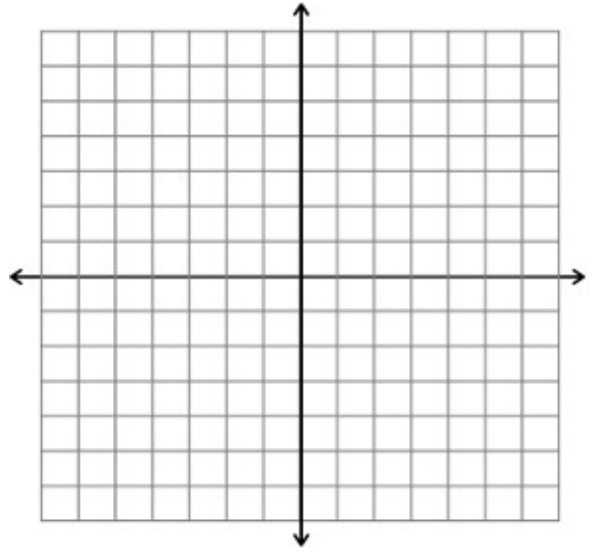
Today's Outcome: Use the slope and y – intercept of a line to write its equation and draw its graph.

Recall: x & y intercepts

Example 1: Complete each table. Graph the Line. State it's slope, x and y intercepts

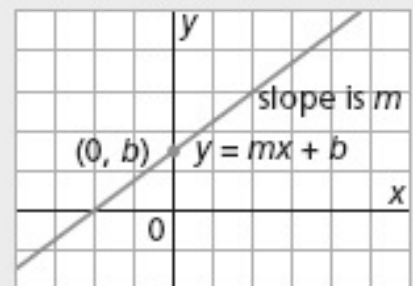
$$y = -2x + 4$$

x	y
-1	
0	
1	
2	
3	



In general, any linear function can be described in **slope-intercept form**.

The equation of a linear function can be written in the form $y = mx + b$, where m is the slope of the line and b is its y-intercept.



The How to Instruction Manual to Graphing Straight Lines

Step 1: Plot y-intercept

Step 2: Use the slope to find another point on the line

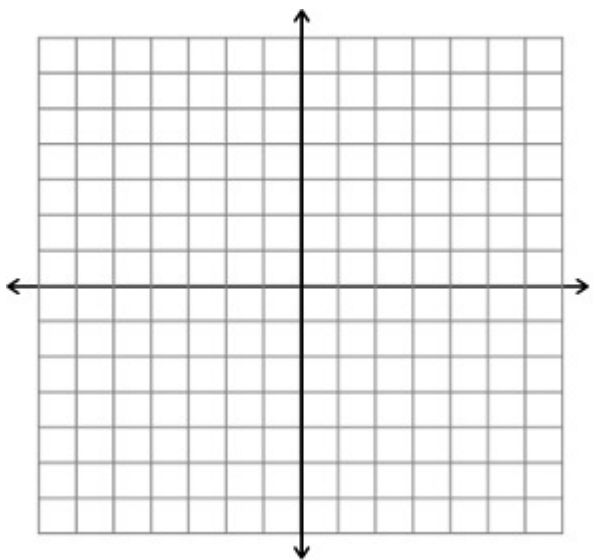
Step 3: Find a third and fourth and fifth point...

Step 4: Draw a straight line between your point.

Example 2:

Graph the line represented
by the given equation:

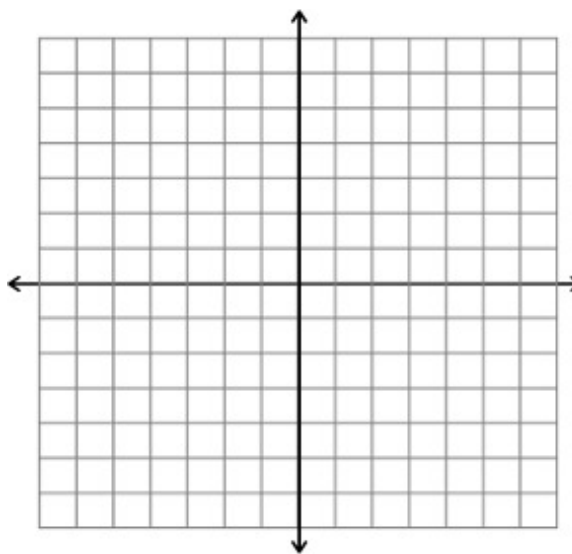
$$y=2x-5$$



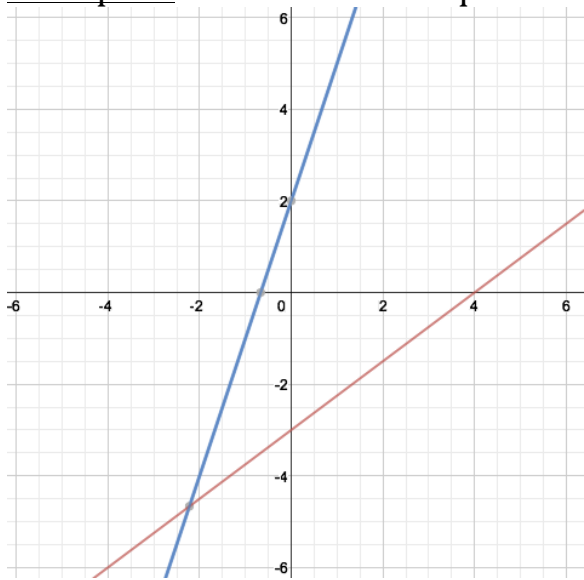
Example 3:

Graph the line represented
by the given equation:

$$y=-\frac{2}{3}x+1$$



Example 4: Determine the equation of each line on the grid.



Line 1:

Line 2:

Challenge: The equation of a line is $y = mx - 3$. Determine the value of m when the line passes through the point $(2, -7)$

Example 5: The graph shows the height of a candle as it burns over time

a) Determine the slope and the h-intercept.

c) Use your equation to calculate the value of h when $t = 45$ min

b) Write an equation to describe the graph.

